RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/561,099_

Source: _1FwP_

Date Processed by STIC: _1/3/06_

ENTERED

IFWP

```
RAW SEQUENCE LISTING                    DATE: 01/03/2006
PATENT APPLICATION:  US/10/561,097      TIME: 11:00:00

         Input Set : A:\MER-141-SEQLST.txt
         Output Set: N:\CRF4\01032006\J561097.raw
```

```
         4 <110> APPLICANT: BAKER, Matthew
         5        WATKINS, John
         7 <120> TITLE OF INVENTION: THROMBOPOIETIN PROTEINS WITH IMPROVED
         8        PROPERTIES
        10 <130> FILE REFERENCE: MER-141
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/561,097
C--> 13 <141> CURRENT FILING DATE: 2005-12-16
        15 <150> PRIOR APPLICATION NUMBER: PCT/US2004/006887
        16 <151> PRIOR FILING DATE: 2004-06-25
        18 <150> PRIOR APPLICATION NUMBER: EP 03014331.7
        19 <151> PRIOR FILING DATE: 2003-06-26
        21 <160> NUMBER OF SEQ ID NOS: 138
        23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
        25 <210> SEQ ID NO: 1
        26 <211> LENGTH: 174
        27 <212> TYPE: PRT
        28 <213> ORGANISM: Artificial Sequence
        30 <220> FEATURE:
        31 <223> OTHER INFORMATION: Modified human TPO
W--> 33 <221> NAME/KEY: VARIANT
        34 <222> LOCATION: 50, 51, 55, 58
        35 <223> OTHER INFORMATION: X=A or E;
        36        X=S or W;
        37        X=A, T, K, S or M;
        38        X=A or T
W--> 41 <221> VARIANT
        42 <222> LOCATION: 60, 61, 63, 67
        43 <223> OTHER INFORMATION: X=R or A;
        44        X=A, T or Q;
        45        X=A, T, or I;
        46        X=A, T or V
W--> 49 <221> VARIANT
        50 <222> LOCATION: 69, 71, 72, 161
        51 <223> OTHER INFORMATION: X=A, T, S or L;
        52        X=A or L;
        53        X=A, S or E;
        54        X=N, A, T, R, E, D, G, H, P, K, Q or V
W--> 56 <221> VARIANT
        57 <222> LOCATION: 162
        58 <223> OTHER INFORMATION: X=A or P
W--> 60 <400> 1
        61 Ser Pro Ala Pro Pro Ala Cys Asp Leu Arg Val Leu Ser Lys Leu Leu
        62 1               5                   10                  15
```

```
        63 Arg Asp Ser His Val Leu His Ser Arg Leu Ser Gln Cys Pro Glu Val
        64         20                  25                  30
        65 His Pro Leu Pro Thr Pro Val Leu Leu Pro Ala Val Asp Phe Ser Leu
        66         35                  40                  45
W--> 67 Gly Xaa Xaa Lys Thr Gln Xaa Glu Glu Xaa Lys Xaa Xaa Asp Xaa Leu
        68     50                  55                  60
W--> 69 Gly Ala Xaa Thr Xaa Leu Xaa Xaa Gly Val Met Ala Ala Arg Gly Gln
        70 65                  70                  75                  80
        71 Leu Gly Pro Thr Cys Leu Ser Ser Leu Leu Gly Gln Leu Ser Gly Gln
        72             85                  90                  95
        73 Val Arg Leu Leu Leu Gly Ala Leu Gln Ser Leu Leu Gly Thr Gln Leu
        74             100                 105                 110
        75 Pro Pro Gln Gly Arg Thr Thr Ala His Lys Asp Pro Asn Ala Ile Phe
        76         115                 120                 125
        77 Leu Ser Phe Gln His Leu Leu Arg Gly Lys Val Arg Phe Leu Met Leu
        78     130                 135                 140
        79 Val Gly Gly Ser Thr Leu Cys Val Arg Arg Ala Pro Pro Thr Thr Ala
        80 145                 150                 155                 160
W--> 81 Xaa Xaa Ser Arg Thr Ser Leu Val Leu Thr Leu Asn Glu Leu
        82             165                 170
        85 <210> SEQ ID NO: 2
        86 <211> LENGTH: 27
        87 <212> TYPE: PRT
        88 <213> ORGANISM: homo sapiens
        90 <400> SEQUENCE: 2
        91 Gly Glu Trp Lys Thr Gln Met Glu Glu Thr Lys Ala Gln Asp Ile Leu
        92 1               5                   10                  15
        93 Gly Ala Val Thr Leu Leu Leu Glu Gly Val Met
        94             20                  25
        97 <210> SEQ ID NO: 3
        98 <211> LENGTH: 15
        99 <212> TYPE: PRT
       100 <213> ORGANISM: homo sapiens
       102 <400> SEQUENCE: 3
       103 Pro Thr Thr Ala Val Pro Ser Arg Thr Ser Leu Val Leu Thr Leu
       104 1               5                   10                  15
       107 <210> SEQ ID NO: 4
       108 <211> LENGTH: 332
       109 <212> TYPE: PRT
       110 <213> ORGANISM: homo sapiens
       112 <400> SEQUENCE: 4
       113 Ser Pro Ala Pro Pro Ala Cys Asp Leu Arg Val Leu Ser Lys Leu Leu
       114 1               5                   10                  15
       115 Arg Asp Ser His Val Leu His Ser Arg Leu Ser Gln Cys Pro Glu Val
       116         20                  25                  30
       117 His Pro Leu Pro Thr Pro Val Leu Leu Pro Ala Val Asp Phe Ser Leu
       118         35                  40                  45
       119 Gly Glu Trp Lys Thr Gln Met Glu Glu Thr Lys Ala Gln Asp Ile Leu
       120     50                  55                  60
```

RAW SEQUENCE LISTING   DATE: 01/03/2006
PATENT APPLICATION: US/10/561,097 TIME: 11:00:00

Input Set : A:\MER-141-SEQLST.txt
Output Set: N:\CRF4\01032006\J561097.raw

```
121 Gly Ala Val Thr Leu Leu Leu Glu Gly Val Met Ala Ala Arg Gly Gln
122 65                  70                  75                  80
123 Leu Gly Pro Thr Cys Leu Ser Ser Leu Leu Gly Gln Leu Ser Gly Gln
124                 85                  90                  95
125 Val Arg Leu Leu Leu Gly Ala Leu Gln Ser Leu Leu Gly Thr Gln Leu
126             100                 105                 110
127 Pro Pro Gln Gly Arg Thr Thr Ala His Lys Asp Pro Asn Ala Ile Phe
128         115                 120                 125
129 Leu Ser Phe Gln His Leu Leu Arg Gly Lys Val Arg Phe Leu Met Leu
130     130                 135                 140
131 Val Gly Gly Ser Thr Leu Cys Val Arg Arg Ala Pro Pro Thr Thr Ala
132 145                 150                 155                 160
133 Val Pro Ser Arg Thr Ser Leu Val Leu Thr Leu Asn Glu Leu Pro Asn
134             165                 170                 175
135 Arg Thr Ser Gly Leu Leu Glu Thr Asn Phe Thr Ala Ser Ala Arg Thr
136             180                 185                 190
137 Thr Gly Ser Gly Leu Leu Lys Trp Gln Gln Gly Phe Arg Ala Lys Ile
138             195                 200                 205
139 Pro Gly Leu Leu Asn Gln Thr Ser Arg Ser Leu Asp Gln Ile Pro Gly
140         210                 215                 220
141 Tyr Leu Asn Arg Ile His Glu Leu Leu Asn Gly Thr Arg Gly Leu Phe
142 225                 230                 235                 240
143 Pro Gly Pro Ser Arg Arg Thr Leu Gly Ala Pro Asp Ile Ser Ser Gly
144             245                 250                 255
145 Thr Ser Asp Thr Gly Ser Leu Pro Pro Asn Leu Gln Pro Gly Tyr Ser
146             260                 265                 270
147 Pro Ser Pro Thr His Pro Pro Thr Gly Gln Tyr Thr Leu Phe Pro Leu
148         275                 280                 285
149 Pro Pro Thr Leu Pro Thr Pro Val Val Gln Leu His Pro Leu Leu Pro
150     290                 295                 300
151 Asp Pro Ser Ala Pro Thr Pro Thr Pro Thr Ser Pro Leu Leu Asn Thr
152 305                 310                 315                 320
153 Ser Tyr Thr His Ser Gln Asn Leu Ser Gln Glu Gly
154             325                 330
157 <210> SEQ ID NO: 5
158 <211> LENGTH: 7
159 <212> TYPE: PRT
160 <213> ORGANISM: Artificial Sequence
162 <220> FEATURE:
163 <223> OTHER INFORMATION: Linker peptide
165 <400> SEQUENCE: 5
166 Gly Ser Gly Ser Gly Ser Gly
167 1               5
170 <210> SEQ ID NO: 6
171 <211> LENGTH: 174
172 <212> TYPE: PRT
173 <213> ORGANISM: Artificial Sequence
175 <220> FEATURE:
176 <223> OTHER INFORMATION: Modified human TPO
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RAW SEQUENCE LISTING   DATE: 01/03/2006
PATENT APPLICATION: US/10/561,097   TIME: 11:00:00

Input Set : A:\MER-141-SEQLST.txt
Output Set: N:\CRF4\01032006\J561097.raw

```
178 <400> SEQUENCE: 6
179 Ser Pro Ala Pro Pro Ala Cys Asp Leu Arg Val Leu Ser Lys Leu Leu
180  1               5                  10                  15
181 Arg Asp Ser His Val Leu His Ser Arg Leu Ser Gln Cys Pro Glu Val
182             20                  25                  30
183 His Pro Leu Pro Thr Pro Val Leu Leu Pro Ala Val Asp Phe Ser Leu
184         35                  40                  45
185 Gly Glu Trp Lys Thr Gln Met Glu Glu Thr Lys Arg Gln Asp Ile Leu
186     50                  55                  60
187 Gly Ala Val Thr Leu Leu Leu Glu Gly Val Met Ala Ala Arg Gly Gln
188 65                  70                  75                  80
189 Leu Gly Pro Thr Cys Leu Ser Ser Leu Leu Gly Gln Leu Ser Gly Gln
190             85                  90                  95
191 Val Arg Leu Leu Leu Gly Ala Leu Gln Ser Leu Leu Gly Thr Gln Leu
192             100                 105                 110
193 Pro Pro Gln Gly Arg Thr Thr Ala His Lys Asp Pro Asn Ala Ile Phe
194         115                 120                 125
195 Leu Ser Phe Gln His Leu Leu Arg Gly Lys Val Arg Phe Leu Met Leu
196     130                 135                 140
197 Val Gly Gly Ser Thr Leu Cys Val Arg Arg Ala Pro Pro Thr Thr Ala
198 145                 150                 155                 160
199 Ala Pro Ser Arg Thr Ser Leu Val Leu Thr Leu Asn Glu Leu
200             165                 170
203 <210> SEQ ID NO: 7
204 <211> LENGTH: 174
205 <212> TYPE: PRT
206 <213> ORGANISM: Artificial Sequence
208 <220> FEATURE:
209 <223> OTHER INFORMATION: Modified human TPO
211 <400> SEQUENCE: 7
212 Ser Pro Ala Pro Pro Ala Cys Asp Leu Arg Val Leu Ser Lys Leu Leu
213  1               5                  10                  15
214 Arg Asp Ser His Val Leu His Ser Arg Leu Ser Gln Cys Pro Glu Val
215             20                  25                  30
216 His Pro Leu Pro Thr Pro Val Leu Leu Pro Ala Val Asp Phe Ser Leu
217         35                  40                  45
218 Gly Glu Trp Lys Thr Gln Met Glu Glu Thr Lys Ala Gln Asp Ala Leu
219     50                  55                  60
220 Gly Ala Thr Thr Leu Leu Leu Glu Gly Val Met Ala Ala Arg Gly Gln
221 65                  70                  75                  80
222 Leu Gly Pro Thr Cys Leu Ser Ser Leu Leu Gly Gln Leu Ser Gly Gln
223             85                  90                  95
224 Val Arg Leu Leu Leu Gly Ala Leu Gln Ser Leu Leu Gly Thr Gln Leu
225             100                 105                 110
226 Pro Pro Gln Gly Arg Thr Thr Ala His Lys Asp Pro Asn Ala Ile Phe
227         115                 120                 125
228 Leu Ser Phe Gln His Leu Leu Arg Gly Lys Val Arg Phe Leu Met Leu
229     130                 135                 140
230 Val Gly Gly Ser Thr Leu Cys Val Arg Arg Ala Pro Pro Thr Thr Ala
```

RAW SEQUENCE LISTING   DATE: 01/03/2006
PATENT APPLICATION: US/10/561,097   TIME: 11:00:00

Input Set : A:\MER-141-SEQLST.txt
Output Set: N:\CRF4\01032006\J561097.raw

```
231 145                    150                  155                  160
232 Asn Ala Ser Arg Thr Ser Leu Val Leu Thr Leu Asn Glu Leu
233                    165                  170
236 <210> SEQ ID NO: 8
237 <211> LENGTH: 174
238 <212> TYPE: PRT
239 <213> ORGANISM: Artificial Sequence
241 <220> FEATURE:
242 <223> OTHER INFORMATION: Modified human TPO
244 <400> SEQUENCE: 8
245 Ser Pro Ala Pro Pro Ala Cys Asp Leu Arg Val Leu Ser Lys Leu Leu
246  1                   5                  10                  15
247 Arg Asp Ser His Val Leu His Ser Arg Leu Ser Gln Cys Pro Glu Val
248                    20                  25                  30
249 His Pro Leu Pro Thr Pro Val Leu Leu Pro Ala Val Asp Phe Ser Leu
250            35                  40                  45
251 Gly Glu Trp Lys Thr Gln Met Glu Glu Thr Lys Ala Gln Asp Thr Leu
252      50                  55                  60
253 Gly Ala Ala Thr Leu Leu Leu Glu Gly Val Met Ala Ala Arg Gly Gln
254 65                  70                  75                  80
255 Leu Gly Pro Thr Cys Leu Ser Ser Leu Leu Gly Gln Leu Ser Gly Gln
256                    85                  90                  95
257 Val Arg Leu Leu Leu Gly Ala Leu Gln Ser Leu Leu Gly Thr Gln Leu
258                    100                 105                 110
259 Pro Pro Gln Gly Arg Thr Thr Ala His Lys Asp Pro Asn Ala Ile Phe
260            115                 120                 125
261 Leu Ser Phe Gln His Leu Leu Arg Gly Lys Val Arg Phe Leu Met Leu
262      130                 135                 140
263 Val Gly Gly Ser Thr Leu Cys Val Arg Arg Ala Pro Pro Thr Thr Ala
264 145                 150                 155                 160
265 Asn Ala Ser Arg Thr Ser Leu Val Leu Thr Leu Asn Glu Leu
266                    165                 170
269 <210> SEQ ID NO: 9
270 <211> LENGTH: 174
271 <212> TYPE: PRT
272 <213> ORGANISM: Artificial Sequence
274 <220> FEATURE:
275 <223> OTHER INFORMATION: Modified human TPO
277 <400> SEQUENCE: 9
278 Ser Pro Ala Pro Pro Ala Cys Asp Leu Arg Val Leu Ser Lys Leu Leu
279  1                   5                  10                  15
280 Arg Asp Ser His Val Leu His Ser Arg Leu Ser Gln Cys Pro Glu Val
281                    20                  25                  30
282 His Pro Leu Pro Thr Pro Val Leu Leu Pro Ala Val Asp Phe Ser Leu
283            35                  40                  45
284 Gly Glu Trp Lys Thr Gln Ala Glu Glu Thr Lys Ala Gln Asp Ala Leu
285      50                  55                  60
286 Gly Ala Ala Thr Leu Leu Leu Glu Gly Val Met Ala Ala Arg Gly Gln
287 65                  70                  75                  80
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 01/03/2006
PATENT APPLICATION: US/10/561,097   TIME: 11:00:01

Input Set : **A:\MER-141-SEQLST.txt**
Output Set: **N:\CRF4\01032006\J561097.raw**

<u>Please Note:</u> .
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the
<220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 50,51,55,58,60,61,63,67,69,71,72,161,162

VERIFICATION SUMMARY
PATENT APPLICATION: **US/10/561,097**

DATE: 01/03/2006
TIME: 11:00:01

Input Set : **A:\MER-141-SEQLST.txt**
Output Set: **N:\CRF4\01032006\J561097.raw**

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:33 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:41 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:49 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:56 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:60 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:67 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:48
L:69 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:64
L:81 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:160